

# IOWA STATE UNIVERSITY

## Digital Repository

---

Library Reports

University Library

---

4-2010

## Library Sustainability Task Force Report: A Plan for Conservation, Community, Collaboration and Communication

Iowa State University Library

Follow this and additional works at: <http://lib.dr.iastate.edu/libreports>



Part of the [Library and Information Science Commons](#)

---

### Recommended Citation

Iowa State University Library, "Library Sustainability Task Force Report: A Plan for Conservation, Community, Collaboration and Communication" (2010). *Library Reports*. 1.  
<http://lib.dr.iastate.edu/libreports/1>

This Article is brought to you for free and open access by the University Library at Iowa State University Digital Repository. It has been accepted for inclusion in Library Reports by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).

---

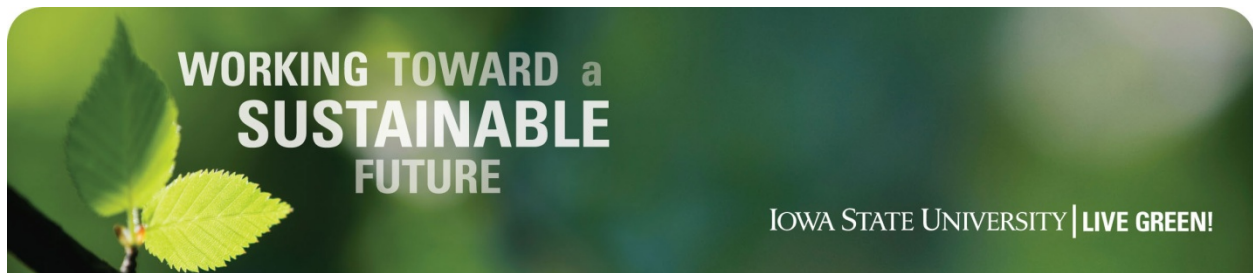
# Library Sustainability Task Force Report: A Plan for Conservation, Community, Collaboration and Communication

## **Disciplines**

Library and Information Science

## **Comments**

The Library Sustainability Tasks Force was composed of Sarah Passonneau (chair), Jeff Alger, Kimberly Goodmanson, Jeff Hall, Lorrie Pellack, Ian Ringgenberg and Hilary Seo.



## Library Sustainability Task Force Report

*A Plan for Conservation, Community, Collaboration and Communication*

Sarah Passonneau, Chair, *Library Dean's Office*

Library Members

Jeff Alger, *Reference and Instruction*

Kimberly Goodmanson, *Information Technology*

Jeff Hall, *Collections and Technical Services*

Lorrie Pellack, *Reference and Instruction*

Ian Ringgenberg, *Student Representative*

Hilary Seo, *Research and Access*

Main Consultants

Merry Rankin, *ISU Director of Sustainability*

Fred Gulden, *Library, Information Technology Officer*

Bob Kalvik, *Area Mechanic, Facilities, Planning & Management*

Joseph Littlebear, *Custodial Consultant, Facilities, Planning & Management*

Olivia Madison, *Dean of the Library*

Nick Osness, *Library, Plant Supervisor*

Kathy A. Parsons, *Library, Research and Access*

Special Thanks

Karen Lawson, *Collections and Technical Services*

David Gregory, *Research and Access*

## Table of Contents

Preface	4
A note about Iowa State University Library	4
Values	4
Philosophy	5
Framework	5
Conservation	6
Community	21
Collaboration/Communication	23
Itemized List of Recommendations	28
Appendix A: Iowa State University's Vision of Excellence* <i>*as it related to sustainability</i>	33
Appendix B: Iowa Climate Change Advisory Council final report* <i>*this is a state report</i>	35
Appendix C: Graphical maps outlining the Library Sustainability Task Force action-plan and areas of examination	37
Appendix D: Library Lighting Inventory	41
Appendix E: Library Window Inventory	42
Appendix F: Library Flooring Inventory	44
Bibliography	45

# Iowa State University Library's Sustainability Report

## Preface:

President Gregory Geoffroy called upon Iowa State University to review its research, work practices, and building maintenance in an effort to be smart stewards of our environment. His central focus on sustainability is well suited to the science and technology focus of the university. He asked that every member of the ISU community focus their thinking around sustainable practice. It is through sustainability that ISU will be able to meet the 2050 challenge in an intentional manner. To start on its sustainability investigation, the Library Sustainability Task Force (LSTF) read and took to heart *A Vision of Excellence in Sustainability at Iowa State University* report (see appendix A for the full report). Another important document that informed our activities was the Iowa Climate Change Advisory Council *Final Report Summary* (see appendix B for full summary). The LSTF believes that its core directive is one of stewardship in providing services, resources and instruction in a sustainable manner. This report reflects the LSTF community's commitment to sustainable practice on a personal level. The Library is committed to its partnership role in teaching, learning, research and outreach, complemented by sustainable practice.

**A Note about ISU library** Libraries are an essential part of our democracy. The messy, contentious and vibrant playground of our democracy is mirrored in the diversity of opinion and philosophies to be found in our collections. Ecologists studying sustainability maintain that a diversity of flora and fauna is an indicator of a healthy, sustainable environment. Our mission is to ensure that a diversity of ideas and knowledge is made available to our community; ideas that can be accessed from the comfort of a person's home's computer. At the ISU library a user can find popular DVDs, such as *An Inconvenient Truth*. A researcher in the area of bio-fuels can find print and electronic journals. Rare and unique items, specifically relating to ISU sustainable agriculture and science, can be found in Special Collections. Our Preservation Department maintains rare resources for scholars and digitizes our historical artifacts in order to share ISU's rich culture with the world. Our materials can be reused repeatedly, allowing the essential maintenance of our rich culture to be revisited by current and future students. Users of our services learn important lessons about stewardship and care of materials. The ISU library takes great pride in its role as a partner in the ISU journey to become a national and international leader in sustainable research and practice.

## Values

The LSTF created a value list that helped inform the philosophy of this report. These values are listed below:

- To be wise conservators of our materials
- Changing behaviors of library staff and users
- Causing no harm to library and its collections
- Reducing carbon footprint
- Educating people about carbon footprint and other sustainable ideas and practices
- Leading by example
- Collaborating with community: library-wide, ISU, city and beyond
- Save money (economic sustainability)
- Innovative & creative sustainability/systems thinking
- Developing & implementing real outcomes and ongoing practices
- Action
- Belief in and acceptance of the sustainable model in every aspect of our lives

### Philosophy:

The LSTF philosophy centers on the ideal of reduction, reuse, and recycling.<sup>1</sup> This terminology is used by the United States EPA as a framework to educate and empower citizens to become stewards of their environment. The LSTF hopes to assist our library community, to support the larger ISU community research needs, and to champion President Geoffroy's call for Iowa State University to assume a leadership role in sustainable research and in ethical stewardship of our environment.

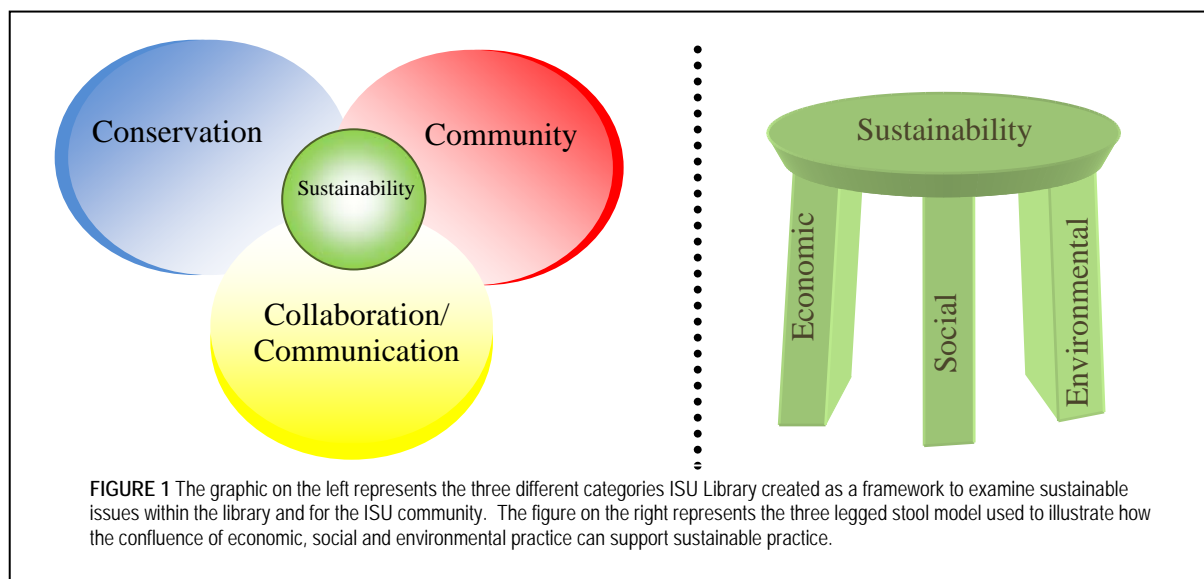
We believe it is essential to the library's mission to educate our community on how the library's activities are grounded on sustainable principles. We also believe that it is the ethical responsibility of the library community to improve our individual practices and provide educational and research support to the ISU community, Iowa, and national and international library organizations in the areas of sustainability.

### Framework:

The LSTF used the model of the three-legged stool of sustainability to develop a rubric for assessing sustainability. The three-legged stool is a graphic model that illustrates how ethical and thoughtful human practice in the economic, social and environmental arenas can be sustainable.

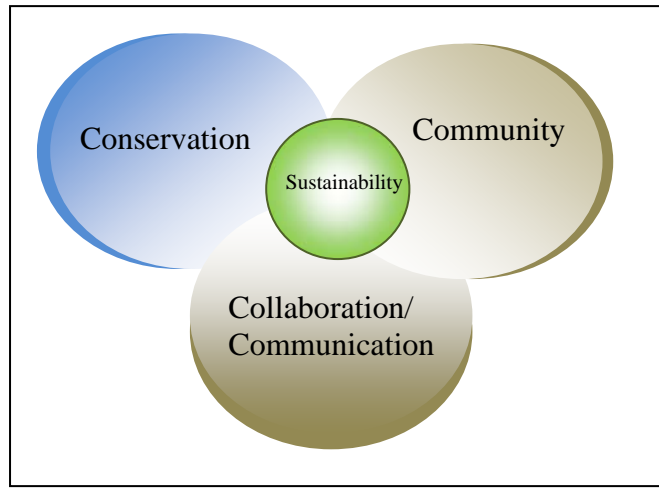
We divided our examination into three categories that we felt best fit the educational role and environment that ISU Library is a part of. These categories were conservation, community and collaboration/communication. Conservation included recommendations for building practices, individual employee practices, purchasing practices and withdrawal practices. Community included outreach to students, academic departments, and professional organizations. See Figure 1 for a graphic illustration of our groupings and for a depiction of the three-legged stool.

Collaboration/communication included methods for informing the campus, national and international academic communities about ISU library educational activities and resources that relate to sustainability. This report will fall into three major parts. The first part, conservation, will list recommendations related to



sustainable practices in the library. Community will examine how ISU Library can become a partner with other ISU colleges, with other Iowa colleges and university libraries, and with national and international libraries to educate and support sustainable practices. Communication/collaboration will recommend a plan of action for developing collaborative partnerships and communicating our sustainable activities.

## Conservation: The Parks Library Building



### Philosophy

The LSTF believes thoughtful stewardship of our environment starts at home. We view conservation within the program as the responsibility of the whole library.

We recommend following the sustainability maxim: reduce, reuse, recycle.

We recommend when possible to buy local products or purchase from local vendors.

### Belief

The LSTF believes that the library could reach President Geoffroy's call to reduce energy usage by 15% within the next three years. The LSTF believes this could be done by following the recommendations that are outlined in the conservation section of this document.

### Values related to Conservation

These points were culled from our value list and specifically relate to conservation.

- Working to be wise conservators of our materials
- Changing behaviors of library staff and users
- Causing no harm to the library and its collections
- Reducing our carbon footprint
- Saving money (economic sustainability)
- Creating innovative sustainability/systems thinking
- Developing/implementing real outcomes and ongoing practices
- Action

### Frame work

We examined the heating/cooling, lighting, energy usage, purchasing, withdrawal of materials, Information Technology (IT) and office practices within the library. Whenever possible we followed the Leadership in Energy and Environmental Design (LEED) guidelines for existing buildings.<sup>2</sup> We divided conservation into twelve main areas. After reviewing, researching and assessing each area we proposed recommendations. We aligned recommendations with one of the three ideals (reduce, reuse, recycle) at the end of each summary. We also provided when practical a list of local sustainable vendors and/or sustainable products.



## Resources outside the Committee

We relied on:

- Bob Kalvik, Area Mechanic, Facilities, Planning & Management (FP&M)
- Nick Osness, Library, Plant Supervisor
- Merry Rankin, ISU Director of Sustainability
- The ISU Council on Sustainability
- Grant Nordby, recent ISU architecture alumnus
- Darryl Knight, Associate Director Residence Halls
- Nancy Levandowski, Director of Campus Dining

## Committee Activities

As a group or individually, the committee

- Viewed a presentation by ISU sustainability director, Merry Rankin
- Toured the building mechanical rooms of the library with Bob Kalvik
- Previewed and took notes on the remodel activities of library rooms 198 and 199
- Conducted an informal sustainability audit with Grant Nordby
- Viewed presentation by Darryl Knight, Associate Director Residence Halls
- Viewed a presentation by ISU Dining director Nancy Levandowski
- Reviewed recommendations by the ISU Recycle Committee



Figure 2: Room 199 is a library point of pride. This picture shows the new lighting, film-treated windows and reused furniture. Not shown is the tile carpeting.

## Point of Pride

This report is an assessment of library activities through the lens of sustainable practice. It is important to note the many areas in which the library is already sustainable. The list below highlights some of the ISU Library's sustainability achievements:

Remodel of room 198 and 199 which includes (see Figure 2):

- Very High Output T5 lamps (one of two campus buildings with this type of lamp)
- High RUV film for the windows
- Tiled carpet

### Reused furniture and shelving

#### Bikes at Work Inc.

This is a bicycle delivery service that moves materials between Parks Library, the Veterinary Medical Library, and Ames Public Library. This collaborative project helps build community services while reducing carbon output.

#### Library Storage Building

This building was cited by the University as an "Energy Hero." This building used at least 10 percent less electricity in FY08 as compared to their three-year average benchmark electric bill.<sup>3</sup>

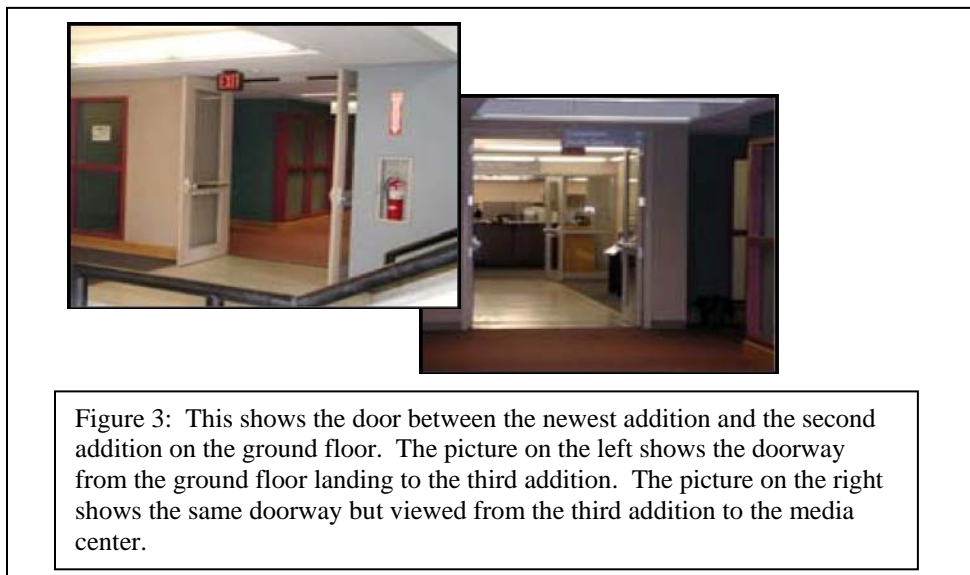
#### Bathrooms

Light motion sensors are in all the bathrooms. Some bathrooms have automatic flushing toilets. Some bathrooms have motion sensitive faucets that control water flow.

## Recommendations

### Heating and Cooling

There are three additions to the original 1925 library. The additions were completed in 1962, 1969, and 1984. The total gross square footage of the library is 325,488. Due to the many additions in the library there are several heating and cooling systems. Each addition has its own heating and cooling system. The systems in place are chilled water, electric and steam. These different systems often work at cross-purposes. This is especially true at doorways between additions, (see Figure 3). When the heating and cooling system of one addition enters the space of another addition, the different systems attempt to average out the temperature, often causing great energy consumption.



1. The LSTF has found heating and cooling to be a complex topic. High energy and inefficient consumption occurs when two additions meet via doorways. The two different heating and cooling systems "collide." At this collision point the two systems attempt to average out the temperatures of both areas. This being the case, the LSTF recommends closing the doors at these points to save energy. However, the cost of installing the assistive technology necessary to meet ADA requirements might be prohibitive. The LSTF recommends that the library keep abreast of innovations and costs in automatic door assistive technology. This would include

modifying at least 20 doors on the ground floor, first floor, second floor, third floor, and fourth floor pass-ways from the 2<sup>nd</sup> to the 3<sup>rd</sup> additions. Closing the doors would alleviate the amount of temperature fluctuations from floor to floor.

Reduce: future energy consumption

2. Building Audit

The committee recommends that a student in the Environmental Engineering Department conduct a full audit of the building. It is possible this could be done for course credit under the supervision of an engineering professor and under the guidance of the Chair of the LSTF.

Reduce: energy consumption

3. Thermostats

Programmable thermostats would provide flexibility in heating and cooling particular areas. Energy consumption could be positively affected by programmable thermostats. The LSTF recommends looking into this possibility. Unfortunately, due to the variety of heating and cooling systems and the number of additions, thermostats might create more problems than they solve.

Reduce: energy consumption

### Lighting<sup>3</sup>

There are a variety of lights, lighting fixtures and lamps in the library. The LSTF did an inventory of all the lights. From this inventory and through discussions with FP&M and building maintenance the LSTF developed the following recommendations. A central issue related to lighting is collection retrieval. It is important that the lighting not adversely affect the ability to view call numbers and other identifying features of a collection item. The LSTF believes that the following measures will positively affect energy usage while retaining the user's ability to retrieve collection items. The LSTF also believes that measures should not adversely affect the safety of the user or of library staff members.

4. T12 and T8 bulbs replaced with T5 bulbs:

A light inventory of the entire building was done during the spring of 2009. There are a total of 13,027 tube lights in all locations. It is recommended that all T12 lights (in the entire building) are replaced with T5 lights. The building facilities manager, Bob Kalvik, provided the formula for the savings. His consultation services should be utilized to ensure we have the correct numbers etc. If this project is taken on it is important that Bob Kalvik is consulted because lighting advances are constantly occurring. It is possible that Bob may recommend an improved light bulb (see Figure 4 for an image of tube lighting). See Appendix D for total light count.

Savings: possibly \$127,207.80 per year

Reduce: electrical use

5. Staff lounge lighting

Current lights use 175 watts per lamp. The life of one bulb is short. It is recommended that new ballasts and bulbs be put in to allow for 28 to 32 wattage bulbs. The brightness of the room is overwhelming and new fixtures would save money, energy and create a warmer environment.

Reduce: electrical use



FIGURE 4 of tube lighting fixture. Changing to T8 or T5 could save the library money while making the library a leader in sustainable electrical use.

6. First floor lights from the entrance area to the room 198  
Place light sensors on the lights above the pass-way on the second floor. During the summer these lights are on when natural lighting provides plenty of light

Reduce: electrical use

7. Second floor walkway from main stairwell to periodical room  
See point 6 as the reasoning is the same.  
It should be noted that studies have shown that Americans are used to higher levels of light in buildings than European and Asian peers. A reduction of electrical use in this area would not only make sustainable sense but would also support practices in other countries (see Figure 5)

Reduce: electrical use

8. North Stairwells  
Investigate the possibility of placing light sensitive sensors for the lights in stairwells on the north end of the first addition to reduce the amount of light during the day.

Reduce: electrical use



Figure 5: The electrical light that follows the course of the pathway could be retrofitted with light sensors. This would decrease the amount of energy consumed. This image also shows how the bank of windows on the right could be used for lighting more effectively.



Figure 6: The windows in the majestic periodical room could be used for natural light. The lighting on the ceiling provides minimal light. During the winter and cloudy days light sensors could effectively manage the light output. .

9. Periodical Reading Room  
Put light sensors in this room for the lighting (see Figure 6). The natural lighting from the windows provides plenty of light during the summer. However, during winter days and cloudy days there needs to be sufficient light for the user.

Reduce: electrical use

#### 10. Grid Lighting

Reduce the number of lamps that are in the grids by half or reduce the wattage of the lamps. It is recommended that the lamps shine down toward the floor so the light reflects down rather than up to the ceiling. This will lessen the impact of dimming or turning-off other the lights (see Figure 7 for an image of grid lighting).

Reduce: electrical use

#### 11. Tier Lighting

Remove the lighting from alternate carrels in the tiers. This would lower electrical consumption and would not affect services to students. An informal study was done of student use of the tiers in the spring of 2009 during Dead week and Finals week. It was assumed that this time would be the time of highest student usage, but there were never more than four students using the carrels on the tiers during this time.

Reduce: electrical use

#### 12. Tier Lighting

Investigate placing motion sensors on the lights in the west end of the tiers and in the stacks. Currently, lights are on the entire time the building is open. When people enter the tiers the lights would stay on, but after 10-15 minutes the lights would go off.

Concern: The LSTF is aware lighting is a safety issue. The tiers are isolated places. Concerns about sustainable electrical use should be considered in conjunction with the safety needs of the ISU community.

Reduce: electrical use

#### 13. Ground Storage/Film Vault

LSTF recommends investigating the installation of motion sensors for lights to reduce energy consumption. LSTF recommends turning off the lights in the film vault when no one is using the space.

Reduce: electrical use

#### 14. Emergency Lighting

LSTF recommends that ISU Environmental Health and Safety staff audit the emergency lighting. The audit could lead to recommendations in light reduction while following legal safety guidelines.

Reduce: electrical use



Figure 7: shows the grid lighting that can be found throughout the newest addition. Dimming these lights would save energy consumption.



## Light Cost Analysis

### 15. Cost analysis

The LSTF strongly recommends that FP& M or Library Business Services do a cost analysis of replacing lamps with T5s. It is possible that an ISU Green Loan could cover the costs.

Ideally, cost to the library would be mitigated by the saving in electrical costs over five years.  
Reduce: energy consumption

## Roof

### 16. Paint the roof white using titanium oxide.

Dr. Levinson & Dr. Akbari found that a 1,000 square foot area of rooftop painted white has about the same one-time impact on global warming as cutting 10 tons of carbon dioxide emissions (see Figure 8 for a graphic display of best roofing materials).<sup>4</sup> Pavements and roofs typically constitute over 60% of urban surfaces (roof 20–25%, pavements about 40%). Using reflective materials such as white paint can help in cooling and heating of the building.<sup>5</sup>

Reduce: energy consumption

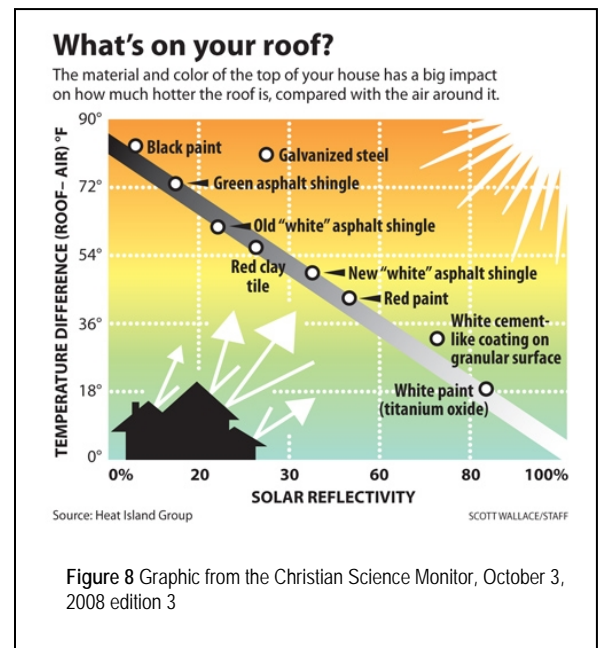


Figure 8 Graphic from the Christian Science Monitor, October 3, 2008 edition 3

## Flooring

### 17. Carpet replacement

A carpeting inventory was done of the entire building. There is traditional rolled carpeting on all floors. As carpet needs to be replaced it is recommended that tile carpeting is used rather than rolled carpeting. It allows flexible removal and replacement of targeted high traffic areas without requiring the replacement of carpeting that is still in good shape.

Places where the switch to tile carpeting would be of high priority would be on the ground floor near the library IT office, (especially where there is dampness by the elevator), on the pathway from the lobby to Bookends Cafe, some areas in the Veterinary Medical library and all areas where there is heavy foot traffic. (see Figure 9 for image of ground floor carpet).

See Appendix B for carpet and flooring inventory

Reduce: carpet waste

Recycle: carpet materials made out of recycle products

Reduce: harmful emissions of chemicals from carpet off-gassing

Local Vendors: It is possible that Bierl Carpet One in Ames supplies tile carpeting along with Shaw carpeting products which are green certified by the Carpet and Rug Institute's



Figure 9: This image shows the ground floor grease spill. Replacing this carpet with tile carpet would reduce waste.

Green Label Plus certification. Learn more about Green Label plus certification at <http://www.carpet-rug.org/commercial-customers/green-building-and-the-environment/green-label-plus/>.

BIERL CARPET ONE 2421 Grand Ave Ames, IA 50010-4601 (515) 232-4400

18. Rubber, Marmoleum, and other flooring treatments

Recycled rubber, Marmoleum and other materials are being used as flooring. These flooring types could be used in some areas where there is now carpet. The longevity and new “looks” of these materials make them a smart sustainable choice. The “green” adhesives used to fix these types of flooring must be correctly installed to avoid maintenance issues.

Reduce: maintenance and waste

Recycle: new flooring materials provided in a variety of recycled materials

### Windows

Protective film has been placed on the windows in rooms 198 and 199 and the south-bank of windows on the third floor. In the new addition, the east/west façade has a cascade of windows that reach to the fourth floor. There is a reflective coating on these windows. Following the energy saving ideas below could save anywhere from 10-30% in energy consumption.<sup>6</sup>

19. Non-treated windows

It is recommended that film be placed on all the non-treated windows. This will protect carpet as well as ameliorate heat loss.

Reduce: energy consumption

20. Blinds/Shades<sup>7</sup>

It is recommended that the Reference Department offices and other Departments with large numbers of windows have blinds or shades installed to ameliorate heat loss and/or heat absorption. The types of window treatments and the types of hardware used affect energy consumption.

See Appendix C for details on different window treatments.

Reduce: energy consumption

21. Weather stripping, caulking and sealing windows<sup>7</sup>

Resealing windows could add significant savings in energy consumption. Exterior windows should be examined as should the caulking of interior windows and doors between additions, e.g. the window and the door in the upper lobby. This could lead to a saving of 2 to 10% depending on the condition of the present seals (figure 10 illustrates this point).

Reduce: energy consumption

### Furniture

22. Future Purchases

It is recommended that all new furniture be certified sustainable. This means all building desks, chairs, and tables would be made from recycled or used or green materials. Recycled furniture products cover a range of materials. This can include recycled and reused wood and reconstituted plastics. Green materials include



Figure 10 depicts the windows and doors that lead from the first building to the newest addition. The picture on the left is taken inside the 1925 building; the picture on the right is taken from the 1984 addition looking at the original building. Caulking the windows and doors could save in energy consumption.

bamboo and wood, depending on how the materials are harvested and transported from “field to consumer.”

Recycle: purchasing furniture that is reconstituted lessens the amount of new materials being created.

Reduce: this policy would decrease the amount of new manufacturing and reduce waste.

Local: Hon products are green and can be purchased at Story Kenworthy, 424 South Bell Avenue, Ames, IA, 50010

There is a regional location for Baltix Sustainable Furniture. URL:

<http://www.baltix.com/index.php>

The business OSE Office Interiors has “green” furniture. URL <http://www.oseinteriors.com/>

## Bathrooms

There are some improvements that would make the bathrooms more water and energy efficient. The committee talked with experts about greywater. It was determined that the technology is not yet in place to make this a viable sustainability option.

### 23. Toilets

The committee recommends that FP&M fix or remove the malfunctioning automatic flow toilets on the fourth and third floors.

Reduce: water consumption

### 24. Faucets

It is recommended that motion sensitive faucets with the lowest practical water flow setting be placed in all bathrooms.

Reduce: water consumption

### 25. Dryers

Current studies show the new dryers are more efficient and sustainable. Automatic air-dryers have become highly efficient but very noisy. Due to the noise, energy efficient dryers are not recommended at this time. It is recommended that the library keep abreast of developments that are recommended for all bathrooms.

## Building practices and processes

### 26. Withdrawal of material

The materials withdrawal process at the ISU library follows the typical procedure both in the state and in the nation. Withdrawn books are sent to the University Purchasing warehouse for resale. Journals are destroyed as they are not wanted by University Purchasing. University Purchasing guidelines do not allow us to give volumes to other institutions. It is recommended that a process is set in place to have these materials recycled. This would probably involve a joint agreement with the other regent institutions and would have to follow processes that would legally transform current laws

The LSTF recommends that we start conversations with the other Iowa public universities to begin the process of examining best practices for “weeding” materials in order to reduce waste and to provide opportunities for recycling. If an agreement was reached we could propose to have current laws changed to follow more sustainable practice.

Recycle: materials are re-purposed for other uses, reducing waste.

### 27. Packaging



Develop a form letter that would be sent to vendors requesting the elimination of all unnecessary packaging materials. It is important to note that this recommendation does not call for a complete elimination of packaging: only extraneous materials that do not contribute to the save transport of newly required items to the library.

Include in the form letter a request that if "peanuts" or other packing materials are required to ensure safe travel that the packaging materials be "green" and environmentally friendly.

Reduce waste: less packaging could mean money savings that the vendor could pass on to the consumer.

28. Purchasing

Purchase recycled paper.

Investigate the purchase of materials that can be reused or recycled.

Examples of this would be pens and pencils that can be refilled and pencils with recycled materials. It is important to analyze if this is cost effective at this time.

Reduce: waste from pens

Reuse: pencils with recycled materials

### Information Technology

Computers consume quite a bit of energy. Testing by the Chair of the LSTF has shown that energy saving for personal computers could be as high as 40% or more if library staff follows the practices and guides listed below and if they are not already implementing any of these activities. Starting in the summer of 2009 IT already instituted several measures that have reduced our energy consumption. These measures are included below.

29. Monitors

Encourage staff to power down monitors when leaving the office. IT already powers down public monitors and computers after 20 minutes. Library IT has found that a 10 minute timeout irritates our users and does not save a lot of energy due to the high usage of our computers.

Reduce: Energy consumption by 30-50%

30. Printing

Double-sided printing as the default throughout the library in the winter of 2009

Reduce: material consumption

31. Staff Printers

Retrofit old printers so that they can do double-sided printing. The library received funding from Government of the Student Body (GSB) to retrofit all public printers so they can print double-sided.

Reduce: paper waste (up to 5,000 pounds of paper)

32. Staff Printers energy use

Turn off staff printers when not in use for more than a few hours.

Reduce: energy consumption

33. Power down public printers when the library is closed.

Reduce: energy consumption

34. Power down public computers and monitors every night in the building.

A Kill-A-Watt meter was used to compare the energy use of a computer and monitor left on for 24 hours versus having a computer and monitor on for only 10 hours.

Total savings: If staff turned off their monitors when not in use throughout the day and at night; if staff turned off their computers when gone for extended periods and over night; if staff printers were turned off when not in use; and if the public printers and computer were turned off at night there could be savings of 30-50% in energy use. The sustainability chair's own study, as well as confirmation from other resources, as well as from the Live Green website supports the idea that there could be significant savings in energy consumption.

Reduce: energy consumption

### Next Steps

35. Investigate the formalization of work-related computer usage processes in which people turn off their monitors when they are not using their computers. All computers should be powered down and shut off by a power strip. This will require the investigation of different staffing and technology possibilities. It is also recommended that the power strip be unplugged in the evening and plugged back in the morning to reduce phantom energy draw.

Reduce: energy consumption

36. Purchase PowerMan or another similar software package  
This software provides reporting on usage patterns and energy usage for computers. It also allows IT to shut down computers at night and control energy consumption. This needs to be discussed building wide because it will affect everyone's work habits and work computer.

Reduce: possible energy consumption reduction

37. Review possible thin client implementation.  
There will be no up-front monetary saving in the purchase of this technology. Saving will be seen in decreased energy consumption. Thin clients have reduced functionality but might be appropriate in particular situations in which users only need limited applications e.g. Microsoft products or web-browsing. The purchase of PowerMan or other software packages would allow IT to review usage patterns. From examining computer usage patterns IT could develop a plan for a thin client implementation.

Reduce: energy consumption

38. Conduct an energy audit that takes into account the addition of new computers and other IT energy consumers. There are 49 new computers in the new classroom. It is important to ensure that our energy consumption is measured holistically in order to obtain correct reporting data.

Reduce: obtain accurate picture of the library energy reduction measures in the area of IT

### Office practices

The library should support and commend library departments' and employees' efforts to become sustainable. The recommendations below would place the library in the forefront of sustainable practices. All recommendations are supported by ISU sustainable organizations or by national groups.

39. Water Cooling Elements (i.e. water fountains)  
Unplug, turn-off, or otherwise minimize energy consumed by cooling water.

Reduce: energy consumption

40. Refrigerators/Microwaves/Coffee pots  
Use communal refrigerators, microwaves, and coffee pots.  
Reduce: energy consumption
41. Food-related practices  
The library should use reusable plates, silverware, glasses, and mugs at all events.  
Reduce: amount of paper and plastic waste.  
Reuse: increase the use of "perishable" food ware.
42. Bookends Café Coffee orders  
The LSTF recommends working with Bookends Café in order to implement the use of recyclable or reusable eating and drinking utensils. When ordering coffee at Bookends Cafe employees should use their own reusable coffee mug rather than the paper cups used by the Cafe.  
Reduce: paper waste  
Reuse: mugs etc.
43. Lighting  
Staff should only turn on lights that are necessary for their work and should turn off lights when you leave your office.  
Reduce: energy consumption
44. Computer-related practices  
Staff should power down computer monitors when leaving the office for more than a few minutes.  
Power down computers when leaving the office for more than a few hours and always duplex print.  
Preview documents on-line before printing.  
Read documents online instead of printing, when practical.  
Reduce: amount of energy used  
Reduce: amount of paper used
45. Printers  
All staff printers should be retrofitted to duplex print. It is possible to save thousands of pounds of paper a year if a million sheets are duplex printed.  
Reduce: amount of paper used
46. Photocopying  
All staff should use implement a thoughtful and efficient use of photocopying. It is recommended that each department or staff member be given a photocopying "allocation." Once individuals surpass their allocation further photocopying will have to be approved on an administrative level.  
Reduce: amount of paper used
47. Smart strip/Power strip  
The library should purchase low energy use power strips called smart strips. Investigate the feasibility of implementing smart strips in work areas. Depending on the design of the work area some staff may or may not have easy access to a smart strip. Where appropriate staff should turn off their computer, printer etc, and then turn off power strip. This will save on phantom energy.  
Reduce: energy consumption

## 48. Email

Staff should use of email to send documents rather than send printed materials via intercampus mail. If using paper, make the minimum number of copies necessary and consider routing rather than making multiple copies. The LSTF recommends the use of the projection unit at group meetings rather than making copies.

Reduce: paper consumption

## 49. Recycle white paper

Everyone should be recycling white paper.

Recycle: increase recycling of paper products

## 50. Color Paper

Staff should minimize the use of color paper since we can recycle white paper on campus

Recycle: increase recycling of paper products due to the fact that if we only use white paper we could recycle all our paper (we do not recycle color paper)

Reduce: energy consumption

## 51. Reports/Minutes

Staff should send all reports and minutes electronically.

Use electronic means to discuss and present studies, reports and meetings.

Reduce: paper waste

## 52. Faxing Mechanisms

The LSTF discovered it is possible to move to a web-based email-to-fax / fax-to-email service.

Preliminary web searches indicate a price of anywhere from \$9.99 - \$17.99 / month. Each "fax" would need a separate account, thus decreasing the savings, yet will eliminate the consumables, as well as the need for the fax hardware. It looks like the direction that IT is moving is towards Exchange and Active Directory; integration with Exchange and Outlook is possible with most of the packages. If nothing else, perhaps this concept could be explored. Why pay a monthly fee to a company when we (the University) have the hardware in place to facilitate it ourselves? If this is implemented across the University, the annual cost of lines and consumables cover the cost of the software alone.

Reduce: paper waste

## 53. Office Supplies

Whenever possible staff should use scrap paper for taking notes.

Reuse rubber bands, paper clips, campus mail envelopes, and other paper products.

This will instill habits to reduce, reuse, and recycle at work and in your personal life.

Reduce: waste

## 54. Travel

The LSTF recommends formalizing group travel processes for all conference and work related travel.

Encourage biking, walking, carpooling, or riding the bus to and from work.

Reduce: fuel consumption

**Other:**

55. The LSTF recommends reducing the number of college newspapers placed in the bins by the library entrance. There are always “leftovers” at the end of the day.  
Reduce: paper waste
56. The LSTF recommends placing newspaper recycling bins by the directory on each floor.  
Reduce: paper waste  
Recycle: paper waste
57. Provide advertizing revenue by printing on the alternate side of the “return date” slips used for checked out materials. It has been suggested that ISU Dining or other campus groups might want to “advertize” on the library slips. While this is not reducing waste it does provide alternative use for the receipts.  
Reduce: repurpose receipts to provide a twofold function to generate revenue and use less paper for possible advertizing
58. The LSTF recommends placing recycling/sorting bins in Bookends Café, room 199, and/or other areas of the library where there is waste generated from the packaging of food purchased at Bookends, the Hub or other food vendors. This will help users become aware of the waste generated by the vendors and prepare our constituents and the library staff for future recycling programs that could be implemented at ISU.  
Recycle: encourage a more expansive recycling program (no program for recycling at this level exists on campus) this endeavor instills best practices in the user

**Bundled Purchase**

59. The LSTF recommends creating a bundled purchase of smart strips, roof paint, staff printers and other projects.  
It has been reported by the government’s energy star group, that this type of group purchase can create savings starting at 20% less energy consumption. The constraints are work place buy-in and the degree in which each item is implemented.  
Reduce: energy consumption

**ISU Green Loan Fund**

60. The LSTF recommends retrofitting all T12 lights to T8 or T5. This could be a saving of anywhere from 20-35% depending on the number and kind of lights purchased.  
Reduce: energy consumption

**A note about recycling**

At present the campus does not have a large, mandated recycling program. This being the case, when the LSTF investigated expanding its recycling program beyond the current ISU “white paper” program it was found that large recycling efforts require infrastructure, community buy-in and campus support in order to provide a cost effective and sustainable program. The LSTF recommends that the library keep abreast of campus developments. When the university supplies the support and infrastructure for recycling bottles, plastics and other resources the library will be ready to participate in this important area.

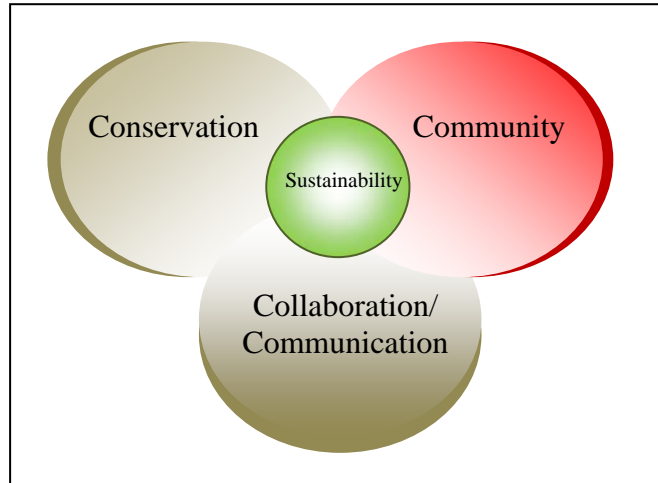
**Conclusions**

There are many things that the library could do to conserve energy and to reduce, reuse and recycle. It is a recommendation of the LSTF that an official building audit be done that includes a cost analysis. Once this is done, it would be possible to apply for the interest free University Green Loan. It is important to note

that it costs money to save money, energy and materials. The library would have to prioritize projects in the area of conservation. It is possible to partner with the government's Energy Star program, and/or a professor and student in engineering to assess the results found in this report. FP& M is an important partner in the process of prioritizing projects.

**For the itemized list of conservation recommendations go to page 28.**

## Community: ISU Library's Community Building



### Philosophy

The LSTF referred to the library's mission statement to develop its recommendations in the area of community. The statement "we are creative partners in learning and teaching, research, and outreach," grounded all community recommendations. The LSTF believes that the library must become an active member of community groups and functions in order to be a creative but also informed partner in sustainable practice and research.

### Framework

The LSTF applied the framework discussed under conservation. The LSTF reviewed its mission statement and also reviewed the values related to community.

### Values related to Community

The values specific to this area were

- Educating people about carbon footprint and other sustainable ideas and practices
- Leading by example
- Collaborating with community: library-wide, campus-wide, city and beyond

### Resources

- Merry Rankin, ISU Director of Sustainability
- The ISU Council on Sustainability
- Nancy Levandowski, Director of Campus Dining
- Green Libraries Website
- Live Green Website

### Points of Pride

The Reference and Instruction Division is actively involved with University Departments and students. Special Collections conducts extensive outreach to the community and has a sustainability collection. The Library's Collections include a growing number of resources on the topic sustainability.

The sustainability research guide provides the ISU community with important information and resource links in a variety of subject areas. You can view the sustainability research guide at:  
<http://instr.iastate.libguides.com/content.php?pid=26342>

## Recommendations

### ISU Library

#### 61. Internal Relationships

The LSTF recommends that the LSTF meet once or twice a year to review progress. It would also be important to assess changes in sustainable practices and how this would affect the library.

### Campus Relationships

62. The LSTF recommends that one library member sit on the University Council of Sustainability (COS). This is a campus wide group that garners campus and national attention. The COS was mentioned in the 2009 College Sustainability Green Report card. Library membership on this community assures that faculty and staff across the campus understand the important role the library plays in sustainable practice. In turn, the library learns about campus concerns and events.

### Student Relationships

63. Faculty/staff participation in various green student groups is important for library sustainability activities. Working with the GSB student director of sustainability helps the library build student and community awareness about library sustainable activities.

### Community Groups

#### 64. Ames Community Group

The Ames Be Cool Coalition is a local group that educates and provides resources to the Ames community regarding sustainability. It is recommended that the ISU library continues its membership with this group in order to understand local community needs.

### Regional, National, and International Professional Groups

65. ILA, ALA, Association for the Advancement of Sustainability in Higher Education (AAHSE), or Higher Education Association's Sustainability Consortium are just a few of the professional groups targeting sustainability. The LSTF recommends that memberships on several of these groups be maintained. This will provide opportunity for community and awareness building.

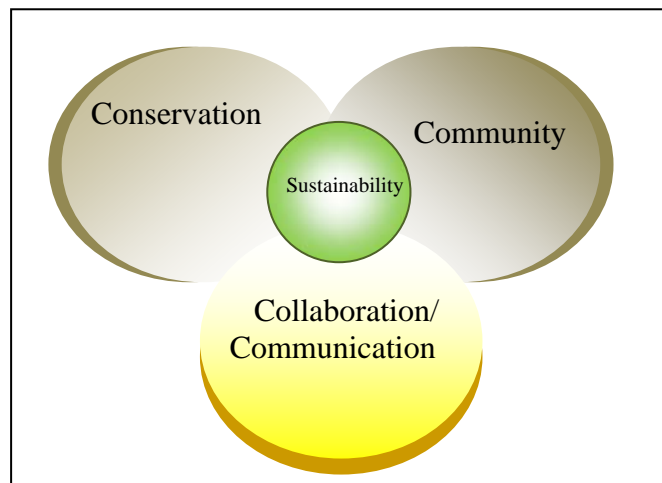
## Conclusion:

There are many things that the library could do to reach-out to the community. It is important to remember this is a core mission of the library. Through the activities listed above, it is possible that ISU library could be an informed community leader and a vital link to resources and information as it relates to sustainable practice. As sustainability becomes an important theme in daily life the library must continue to assess how to build community relations an effective manner given our limited resources and staff.

For the itemized list of community recommendations go to page 30.



## Collaboration/Communication: ISU Library's Projects and Outreach



### Philosophy

The LSTF drew upon the Library's mission statement to develop its recommendations in the area of collaboration/communication. The LSTF believes only after reaching out to the community is the ground sown for rich, collaborative experiences and for effective communication with our community.

### Framework

The LSTF used the framework discussed under the conservation. The LSTF reviewed its mission statement and also reviewed the values related to community. The values specific to this area were:

- Educating people about carbon footprint and other sustainable ideas and practices
- Developing/implementing real outcomes and ongoing practices
- Action
- Belief in and acceptance of the sustainable model in every aspect of our lives

### Resources

- Merry Rankin, ISU Director of Sustainability
- The ISU Council on Sustainability
- Nancy Levandowski, Director of Campus Dining
- Green Libraries Website

### Points of Pride

Some members of the University community view the sustainability research guide as a valuable resource. The depth of our library collection in the area of sustainability, which crosses multiple disciplines, is a rich resource for our campus. A variety of activities are being conducted and long term objectives are being developed within the various communities. These activities and objects could become points of pride for library communication and collaboration.

The library hosted the initial COS lecture during the winter of 2009. This lecture included presentations from professors and students from the environmental writing program, the library, Design, and the

sciences. The partnership between GSB provided the opportunity to collaborate and provide funding for the library. This funding allowed the library to retrofit all public printers so the printers can now duplex print.

The Chair of LSTF gave several presentations about sustainability efforts at the ISU Library during 2009 including an invited webinar presentation at Amigos Learning Services "Go Green @ Your Library" conference.

## Recommendations

### Seminars and Workshops

66. The LSTF recommends that the library keep abreast of library sustainability seminars and workshops on campus, regionally and nationally.
67. It is recommended that when possible that LSTF members or other library members participate in seminars and workshops related to sustainability on a local, regional, national and international level.
68. The LSTF recommends investigating the creation of a multi-area presentation that involves reference and instruction, collections and technical services, research and access and IT. Each partner could develop a 10-15 minute presentation that educates our peer groups on how different library divisions are addressing sustainability.
69. The LSTF recommends continuing the partnership with COS by launching a yearly seminar series at the library.
70. The LSTF recommends the development of a library seminar centering on Google documents, and other cloud computing applications to support sustainable research practices.
71. The LSTF recommends investigating a daylong workshop on sustainable library practices involving the Iowa regent's libraries, 4-year colleges, and community colleges. The LSTF could work with ILA and/or ALA to ensure the opportunity for community building.

## Educational Resources

The sustainability research guide is a useful resource for persons interested in sustainability. This guide is a collaborative effort between the R&I Division staff and the LSTF Chair. The LSTF, however, recommends the following:

72. The LSTF recommends creating a "starting out" research guide that would in spirit follow the template created by the library instructional department. This could include a glossary, main concepts (global warming, carbon footprint, etc.) and a timeline.
73. The LSTF recommends creating an A-Z research guide that would provide an alphabetic resource of all things "green."
74. The LSTF recommends creating collaborating with the campus director of sustainability to have this resource linked from the Live Green website! The LSTF is investigating the possibility of having this project facilitated by a student intern or by a student group within the "Green Umbrella" student organization. The Green Umbrella is the campus consortium of all official student sustainability groups.

75. The LSTF recommends continuing collection development in the area of sustainability and interdisciplinary research.

### Survey

76. The LSTF recommends that a simple survey be conducted asking our own library community what are their top three priorities are for pursuing best sustainable practice. This would promote community buy-in and create internal educational opportunities.

### Modeling

77. The LSTF recommends that each member of our community model “green” behavior. The concept of the “tipping point” and group-think have shown that culture ethos can be created by “doing” and leading by example. We could have departmental games, competitions or other activities that involve the whole library community.

### Signage

The LSTF believes that signage created for our internal community and public users will help communicate our activities.

78. Signage should be created that helps identify desired behaviors and explains the rationale behind sustainable activities. Examples can be found in Curtiss Hall and several other Colleges and Departments.

### Stewardship

It is important to reach beyond the library walls and beyond State funding to build on our energy saving practices. We recommend collaboration between the LSTF and the Library's Development Director. This collaboration would focus on stewardship opportunities in the area of sustainability.

79. Investigate possible stewardship themes in the area of sustainability. We suggest working closely with our Development Director and with all departments in the library. This could be part of a larger project that includes a variety of focal points to pique the interest of a diversity of donors.

### Publicity

Communication is the key to successful collaboration efforts.

The LSTF recommends that the library involve student leaders in the development of a sustainability public relations campaign. We are working with a student design group to create a student centered PR campaign. The working title is “You have the Power.” Banners, displays, and brochures could be created for students. Student leaders such as the GSB and members of the student umbrella group provide feedback on themes and messages.

80. LSTF recommends adjusting the student-designed public service campaign to fit our needs.
81. LSTF recommends involving donors with funding opportunities that would support this PR campaign.
82. LSTF recommends continuing news items in *Inform*, *Bookmarks* and other publishing venues.
83. LSTF recommends using Facebook and other web 2.0 technologies to interface with the campus community.
84. LSTF recommends working with the PR committee to create local PR campaigns.

### **Presentations**

85. LSTF recommends creating sustainability presentations such as PowerPoint presentations that can be viewed from sustainable research guides.
86. LSTF recommends utilizing the student created sustainability video that was facilitated by Chris King and Sarah Passonneau.

### **Scholarship**

87. LSTF recommends promoting the scholarship of library faculty in this area through presentations, support and education.
88. LSTF recommends keeping of abreast of scholarship in the area of library sustainability

### **Collaborative Projects**

The LSTF recommends that collaborative projects center on the library's strong collections and research support. In this way partnerships with the larger community will build upon the library's strengths. By understanding our conservation issues, and our community's concerns, the LSTF feels that the library is in a pivotal position to develop collaborative projects.

89. LSTF recommends testing Green print widget. This software shows users what pages are being printed. It allows the user to remove all unnecessary pages from being printed without disrupting the printing process.  
It is recommended that this software be tested to ensure that it is a reliable and useful tool. The LSTF recommends that this proposal be sent to the Council on Sustainability. This group could then develop a plan and test any new widget.
90. LSTF recommends implementing a recycling process where vendors of materials reclaim their materials in an effort to support the reuse and recycling of computer waste.
91. LSTF recommends future purchases of equipment that meets ENERGY STAR requirements. If all computers sold in the United States meet the ENERGY STAR requirements, the savings in energy costs will grow to more than \$2 billion each year and greenhouse gas emissions will be reduced by the equivalent of greenhouse gas emissions from nearly 3 million vehicles.
92. LSTF recommends working with the campus Sustainability Director to create opportunities for student internships, joint research guides, assessments, regent partnerships, regional and national partnerships that will build on the library's strengths. Investigate the prioritization of a digital image sustainability collection. Look internally to understand the feasibility of such a goal. Build on community partnerships discussed in the community section of this report. Create possible collaborative digital initiatives for this project that would parallel President Geoffroy's call to position ISU as a centerpiece for national and international leadership in the area of sustainability.
93. The LSTF recommends looking at Calisphere and other collections such as the Iowa Digital Heritage Collection to draw inspiration and to ground any projects within realistic goals and identify possible long term objectives.

94. LSTF recommends keeping abreast of open access publishing initiatives nationwide. LSTF recommends reviewing issues in scholarly communication. At the same time, explore ISU sustainability research. The library could potentially collaborate with other ISU programs to create innovative ventures in scholarly communication. The central question remains is the present model of publishing and access to scholarly materials “sustainable?”

**Conclusion:**

The LSTF strongly believes that by examining its conservation practices and by building community relations we can develop communication and collaboration opportunities in the area of sustainability. The opportunities listed in this final section could place the library in the forefront on a variety of initiatives. Open access and digital collections are not only central topics in academic libraries today but potential strategic planning projects that fit under the sustainable rubric. Potential funding opportunities, collection growth, and community partnerships could be viewed through an assessment of some of the recommended collaborative/communication projects. It is essential that further investigation occur related to these projects. The ISU library, because of its relationship to the rest of the campus, can potentially benefit from the sustainability initiative, and in turn, give benefit to its campus, regional, national and international community.

For the itemized list of collaboration/communication recommendations go to page 31.

## Itemized List of Conservation Recommendations

Conservation	Recommendation	Reason
<b>Heating and Cooling</b>		
	Hallways on ground through fourth floors: Have EH & S review possibility between additions be closed	Conserve energy
	Building Audit: Have a student in the environmental engineering department do a building audit of this system as well as other issues in the library	Confirm findings
	Thermostats: Review possibility of programmable thermostats. This could allow departments to have more control over their work area temperature.	Conserve energy
<b>Lighting</b>		
	T12 and T8 bulbs: Replace T12 and T8 with T5 bulbs. This is a huge and costly task. The lighting recommendations found below are less costly alternatives that begin the process of light replacement.	Energy savings 20-30%
	Lounge: Replace lights in lounge that use 175 watts.	Energy savings 20-30%
	First Floor Light Sensors: Place light sensors on the lights on the first floor entrance and towards room198	Energy savings 10-30%
	Second Floor Light Sensors: Place light sensors on the lights on the second floor pathway to the periodical room	Energy savings 10-30%
	North stairwells: Reduce the amount of light used in the north stairwells	Energy savings 10-30%
	Periodical Room: Dim or turn off the lights in the periodical reading room	Energy savings 10-30%
	Grid Lighting: Point the lights down; turn some lights off; reduce the amount of light emitted and/or turn some grids off	Energy savings 10-30%
	Tiers: Put light motion sensors in the tiers	Energy savings 10-30%
	Tier Carrels: Remove lighting from every other carrel in the tiers	Energy savings 10-20%
	Ground Storage/Film Vault: Investigate putting in motion sensors for lights	
	Emergency Lighting: Lighting audit by ISU Environmental Health and Safety	Energy savings 10-20%
	Light Audit: Cost versus energy saving analysis versus safety	Assess and prioritize jobs
<b>Roof</b>		
	Roof Paint: Paint the roof white using titanium oxide	One time savings
<b>Flooring</b>		
	Carpeting: Use tile carpeting instead of rolled carpeting	Materials savings
	Other Materials: Use rubber, Marmoleum, and other flooring treatments	Materials savings
<b>Windows</b>		
	Window Film: Find out the cost of treating non-treated windows with "paint applied" treatments or with film placed on the glass.	Energy savings 10-30%
	Other Window Treatments: Put on blinds or shades this will reduce energy loss.	Energy savings 10-30%
	Other Window Activities: Caulk and reseal windows	Energy savings
<b>Furniture</b>		
	Furniture: Replace when needed furniture that is created from recycled materials	Reduce overall waste
<b>Bathrooms</b>		
	Toilets: Fix or remove automatic toilets	Reduce water waste, /energy consumption

	Faucets: Install motion sensitive faucets with the lowest practical water flow setting	Reduce water waste, energy consumption
	Dryers: Keep abreast of developments in automatic air-dryers which have become highly efficient but are extremely noisy	Review use in future for energy savings
<b>Building practices and processes</b>		
	Materials: Initiate a Regent process for reusing or recycling de-acquisitioned of materials.	Reduce waste/Community good
	Packaging: Write a letter to vendors asking for a reduction in packing waste	Potential savings due to less cost in "preparing" materials
	Office Supplies: Purchase reusable pens, and other office supplies, purchase recycled materials such as paper when possible	Reduce waste
<b>IT</b>		
	Monitors: Encourage staff to power down monitors when leaving the office	Conserve energy
	Printing: Set-default where possible to duplex print or double sided printing	Reduce waste.
	Older Printers: Retrofit printers for duplex printing	Conserve energy
	Computer: Turn off computer when you leave at night or when away for long periods during the day	Energy savings 20-30%
	Printers: Power down staff printers when not in use	Energy savings 20-30%
	Printers: Power down public printers when the library is closed	Energy savings 10-30%
<b>IT Next Steps</b>		
	Computers: Formalize work-related computer usage processes and develop a plan for community buy-in. Everyone needs to be on the same page (for more information go to number 33 on page 13)	Energy savings 10-30%
	Public Computers: Power down public computers and monitors every night in the building	
	Software: Purchase PowerMan or other software packages for reporting purposes	Energy savings 10-30%
	Thin Client: Review and develop possible plan for thin client implementation	Energy savings 10-30%
	IT Audit: Review and keep in mind energy consumption as more computers are needed for the public's use.	Energy savings 10-30%
<b>Office practices</b>		
	Water: Unplug water cooling elements and or eliminate the water cooler	Reduce energy consumption
	Food Storage: Share refrigerators/microwaves/coffee pots	Reduce energy consumption
	Food & Drinks: Use reusable plates, silverware, glasses, and mugs	Saving in materials cost
	Food & Drinks: Use a personal mug when ordering Bookends Café Coffee	Reduce waste
	Lights: Turn off lights when not in the office-this includes desk lights, office lights, etc.	Saving up to 10-30%
	Computer: Turn off monitors when leaving the work area	Saving up to 30-50%
	Computer: Turn off computer when gone for an extended time	Saving up to 30-50%
	Computer: Turn off printers when not in use	Saving up to 30-50%
	Printing: Print duplex when possible	Materials savings
	Printer retrofit: Purchase the retrofit tool that allows old printers to duplex	
	Power strip: Purchase smart strips and turn off and unplug power strips them at night	Reduce energy consumption
	Email: Use email to send documents etc. when possible rather than print copies	Materials savings

	Paper: Recycle white paper	Materials savings
	Paper: Use a minimal amount of color paper	Reduce waste
	Reports/Minutes: Send reports and minutes electronically and read electronically when practical	Materials savings
	Faxing: Investigate a virtual faxing tool	Materials savings
	Office Supplies: Use scrap paper, reuse rubber bands, paper clips, campus mail envelopes, and other paper products	Materials savings
	Travel: Formalize group travel to conferences processes and encourage individual biking, walking, bus riding, car pooling	Reduce energy consumption/Money saving in the area of travel.
<b>Other</b>		
	Daily Newspaper: Limit the number of newspapers placed the bins by the library entrance	Reduce waste
	Daily Newspaper: Put recycling bins by the directory on each floor	Recycle materials
	Due date slips: Print on both sides as revenue source	Revenue source
	Sorting Bins: Place sorting bins café, room 199, and/or other areas of the library where there is a waste generated from the packaging of food	Recycle materials
<b>Bundled Purchase</b>		
	Variety of Materials: Strategize to eliminate many small purchases by purchasing many items at once e.g. Smart strips/roof paint/staff printers retrofit and other projects	Potential savings 10-30%
<b>Green Loan Fund</b>		
	T12 & T8 Lights: Retrofit all T12 and/or T8 lights to T5 lights	Potential savings 20-30%

## Itemized list of Community Recommendations

Community	Recommendations	Reason
<b>ISU Library</b>		
	LSTF: Create a Library Sustainability Committee to review best practice and progress on projects	Apply latest developments/research to library processes
<b>Campus Relationships</b>		
	Council on Sustainability (COS) etc.: Join a variety of campus "green" groups	Keep abreast of campus developments
<b>Student Relationships</b>		
	Faculty/Staff: Attend, and participate in the activities of "green" student groups	Develop relationships and buy-in Increase knowledge base of student activities
<b>Community Groups</b>		
	Ames Community Groups/library/city hall: Join or maintain membership with various local groups	Keep abreast of city developments
<b>Regional National and International Professional Groups</b>		
	Professional Groups: Join ILA, ALA, Association for the Advancement of Sustainability in Higher Education (AAHSE), Higher Education Association's Sustainability Consortium and other related groups: Support faculty and staff involvement in these groups	Opportunity for community and awareness building. Share expertise.



## Itemized list of Collaboration/Communication Recommendations

Collaboration/ Communication	Recommendations	Reason
Seminars and Workshops		
	Seminars: Keep abreast of sustainability seminars and workshops on campus, regionally and nationally	Grow knowledge base
	Participation: Create presentations for seminars and workshops related to sustainability on a local, regional and national level	Develop a regional and national reputation in the area of sustainability and grow the Library's knowledge base
	Presentation: Create a multi-area presentation that involves reference and instruction, collections and technical services, research and access and IT. Each partner could develop a 10-15 minute presentation that educates our peer groups on how different library departments are addressing sustainability	Develop a regional and national reputation in the area of sustainability/grow knowledge base
	Co-hosted Seminar: Continue partnership with COS by launching the yearly seminar series at the library	Develop a campus reputation as a sustainability leader
	Library Seminar: Develop a library seminar centering on Google documents, and other electronic resource sharing devices to support sustainable research practices	Develop profile in the area of sustainability/grow knowledge base
	Statewide Library Workshop: Investigate a day long workshop on sustainable library practices involving Regent libraries, 4-year colleges, and community colleges	Develop profile in the area of sustainability/grow knowledge base
Educational Resources		
	Research Guide: Create a "starting out" sustainable research guide (footprint, etc.) and a timeline to name a few ideas.	Educational and research support
	Research Guide: Sustainable A-Z research guide "	Educational and research support
	Partnership: Collaborate with campus director of sustainability to link a-z from the Live Green website facilitated by a student intern or by a student group within the "Green Umbrella" student organization	Educational and research support
	Collections: Continue collection development in the area of sustainability and interdisciplinary research.	Educational and research support
Survey		
	Internal Survey: Conduct a simple survey asking our own library community what are their top three sustainability priorities	Community building/buy-in
Modeling		
	Individual Ownership: Modeling "green" should be the responsibility of all library members	Community building/Tipping point
Signage		
	Signs: Create signage that identifies and promotes desired behaviors	Community building/buy-in Community building/Education
Stewardship		
	Donors: Investigate possible stewardship themes in the area of sustainability (working closely with our development director and with all departments in the library)	Community building/Resource building
Publicity		
	Student PSA: Tweak and adjust student-designed campaign to fit our needs	Community building/Student relationship building

	Donors: Create a plan to involve donors in funding opportunities	Community building/Resource building
	News Items: Continue news items in <i>Inform</i> , <i>Bookmarks</i> and other avenues	Community building/Education
	Web 2.0: Use Facebook and other web 2.0 technologies to interface with the campus community	Community building/Education
	PR Committee: Work with the PR committee to create local PR campaigns	Community building/Education
Presentations		
	Presentations: Create sustainability presentations-PowerPoints that can be viewed from sustainable research guides	Community building/Education
	Video: Utilize the student created sustainability video that was facilitated by Chris King and Sarah Passonneau for library presentations	Community building/Education
Scholarship		
	Library Scholarship: Promote community scholarship in this area through travel and research support	Community building
	Library Scholarship: Keep abreast of the scholarship in this area	Community building
Collaborative Projects		
	Test Green print widget: Test this product	Community building Reduce: Paper waste
	Recycling program: Implement a recycling process where vendors of materials reclaim materials in an effort to support the reuse and recycling of computer waste.	Community building Reduce & recycle: Reduce materials waste & potential recycling
	Future purchases: Work with campus groups to work with IT campus contracts. to ensures all purchases meet ENERGY STAR requirements.	Community building Reduce: Energy consumption
	Partnership: Work with the campus sustainability director to create opportunities for student internships, joint research guides, assessments, Regent partnerships, regional and national partnerships that will build on the library's strengths	Collaboration/Education
	Collections: Investigate the prioritization of a digital image sustainability collection. Look internally to see the feasibility of such a goal because it aligns with President Geoffroy's call to position ISU as a centerpiece for national and international leadership in the area of sustainability	Strategic Planning/University Alignment
	Collections: Examine Calisphere and other collections such as Iowa Heritage Digital Collection	Strategic Planning/University Alignment
	Collections: Keep abreast of open access initiatives, explore campus partnership opportunities, review issues in scholarly communication	Educational and research support

## Appendix A

A copy of Iowa State University's Vision of Excellence which strategically places sustainable activities as the central theme for the University's strategic planning.

### **A Vision of Excellence in Sustainability at Iowa State University\***

**Achieving excellence is a journey of a community that starts with a vision of targeted achievement areas, embraces practices and behaviors that support these areas, and secures commitment through short-term actions and long-term goals.**

#### **A vision of a sustainable Iowa State community entails that:**

- Our planning and policies model leadership, creativity, open-mindedness, vision, collaboration, courage, and thoughtfulness toward a long-term commitment to sustainability.
- We remove institutional barriers that do not support and encourage sustainability.
- We give high priority to sustainability in all projects and initiatives.
- We position fundraising strategies to cultivate sustainability-minded giving.
- We strive for a policy of a carbon neutral Iowa State community.
- We adopt behaviors that lead all members of the Iowa State community to become more knowledgeable, advocate for change, reduce consumption, encourage participation, share knowledge, and motivate others in support of sustainability.
- We actively engage all ISU community members in sustainability goal-setting, implementation, evaluation, and continuous improvement.

#### **A sustainable Iowa State community embraces practices and behaviors that support targeted achievement areas:**

- We continuously reassess and reevaluate our energy consumption needs and the technologies that support them.
- We provide an infrastructure for alternative transportation (bike paths, electronic ride share, electric vehicles, and vanpools).
- Our construction and maintenance planning and operations incorporate holistic sustainability practices including: energy efficiency, energy diversity, water conservation, and landscape management.
- We approach all consumption, purchasing, and disposal activities and decisions within a reduce, reuse, recycle decision-making framework.
- We look for ways to include the greater Ames community in education, communication, coordination, and engagement activities that support and enhance ISU sustainability efforts and initiatives.

#### **A sustainable Iowa State community commits to immediate, short-term actions, that support long-term goals:**

- We create a system of measurable sustainability benchmarking and progress reporting (consumption, energy use, and waste diversion).
- We reduce energy use by consolidating work area energy consumption (coffee makers, microwaves, heaters, printers, copiers, and refrigerators).
- We implement operations that support sustainability through reduced consumption (day lighting, paperless classrooms and offices, room sensors, dual flush toilets, digital meetings, fume hoods, laboratory hoods, and power strips).
- We promote and incentivize alternative transportation programs and practices (variable time and rate parking permits, Cyride pro-rated for entire ISU community).
- We adopt purchasing efforts that support sustainability.
- We create a sustainable food supply and consumption system (purchasing local foods, creative pricing of ISU dining plans, composting, and ISU community supplied campus farmer's market).
- We adopt a communication plan focused on sustainability that serves the greater Iowa State community through tools and resources including websites, interpretive signage, best practices, green calendar, annual trainings and refresher sessions, and relevant social media.
- We offer creative incentives that promote, recognize, and reward sustainability projects, efforts, and leadership (awards, financial support, dedicated endowments).
- We provide a sustainable campus that immerses students in sustainability living, initiatives, curriculum, and policy making through opportunities including: focus groups, surveys, conferences, committees, service learning, orientation information sessions, and interdisciplinary core requirements.

\*The vision outlined in this document is a compilation of the visions, dreams, and call to action of the 319 attendees and off-campus participants of the 2009 Symposium on Enhancing Sustainability at Iowa State University. The information presented in this document summarizes the recommendations put forth by the symposium planning committee from this compilation. In submitting these recommendations the committee was mindful of those action items that would ensure short-term success, long-term vision, and a foundation of commitment necessary to achieve excellence in leadership.

## Appendix B

### Iowa Climate Change Advisory Council final report



## Final Report Summary

### Background

The Iowa General Assembly enacted Senate File 485 in 2007 and House File 2571 in 2008. This legislation creates the Iowa Climate Change Advisory Council (ICCAC).

As specified in Iowa Code section 455B.851, “The council shall submit the greenhouse gas emission reduction proposals to the governor and the general assembly by January 1, 2009.”

Five subcommittees were formed to consider information and potential policies in the following sectors:

- Energy Efficiency and Conservation (EEC)
- Clean and Renewable Energy (CRE)
- Transportation and Land Use (TLU)
- Agriculture, Forestry, and Waste Management (AFW)
- Cross-Cutting Issues (CC) (i.e., issues that cut across the above sectors)

### Key Outcomes

- Approval of a comprehensive package of multi-sector policy options to reduce GHG emissions and address related energy and commerce issues in Iowa. ICCAC approved 56 policy options for inclusion in this Final Report.
- The Council developed two GHG Reduction Scenarios. One scenario was specified by the enabling legislation to achieve a 50% reduction from the baseline year [2005] by 2050. The Council developed a second GHG reduction scenario to achieve a 90% GHG reduction below the 2005 baseline year by 2050. The Council chose 2012 and 2020 as its short-term and mid-term intervals, respectively.

### Federal and State Actions

The federal Energy Independence and Security Act of 2007 (EISA) was signed into law in December 2007. This law contains several requirements that will reduce GHG emissions as they are implemented over the next few years.

Iowa has recently embarked on statewide public sector energy efficiency initiatives in response to concerns about energy costs. The state is implementing two energy efficiency initiatives under Executive Orders 6 and 41.

Executive Order 064 by Governor Culver establishes a Green Government Initiative in Iowa that is targeted at three areas (buildings, materials and biofuels). Executive Order 41s by Governor Vilsack requires that all state agencies reduce energy consumption in state buildings.

Together, these federal and state requirements are estimated to reduce gross GHG emissions for all sectors combined in Iowa by about 3.4 MMtCO<sub>2</sub>e (a 2.4% reduction) from the business-as-usual emissions in 2020.

### **Proposed Sector Option Impacts**

**Table ES-2. Summary by sector of estimated impacts of implementing all of the ICCAC options (cumulative reductions and costs/savings)**

Sector	GHG Reductions (MMtCO <sub>2</sub> e)			Net Present Value 2009–2020 (Million \$)	Cost-Effectiveness (\$/tCO <sub>2</sub> e)
	2012	2020	Total 2009–2020		
Energy Efficiency and Conservation	1.1	8.5	42.8	-\$1,057	-\$25
Clean and Renewable Energy	5.8	48.0	233.5	\$5,921	\$25
Transportation and Land Use	1.6	11.1	55.0*	-\$2,219	-\$59
Agriculture, Forestry, and Waste Management	11.3	37.4	233.0	\$2,139	\$9.2
Cross-Cutting Issues	Non-quantified, enabling options				
<b>TOTAL (includes all adjustments for overlaps)</b>	<b>19.9</b>	<b>105.1</b>	<b>564.3</b>	<b>\$4,785</b>	<b>\$8.8</b>

### **Proposed Sector Option Applicability to Iowa State University**

Within the sectors noted in Table ES-2, certain options offer potential applicability to Iowa State University in terms of our role in teaching, research, extension, and daily operations within the university community, the Ames community, and the communities we reach through extension and research.

Areas of potential interest and applicability include:

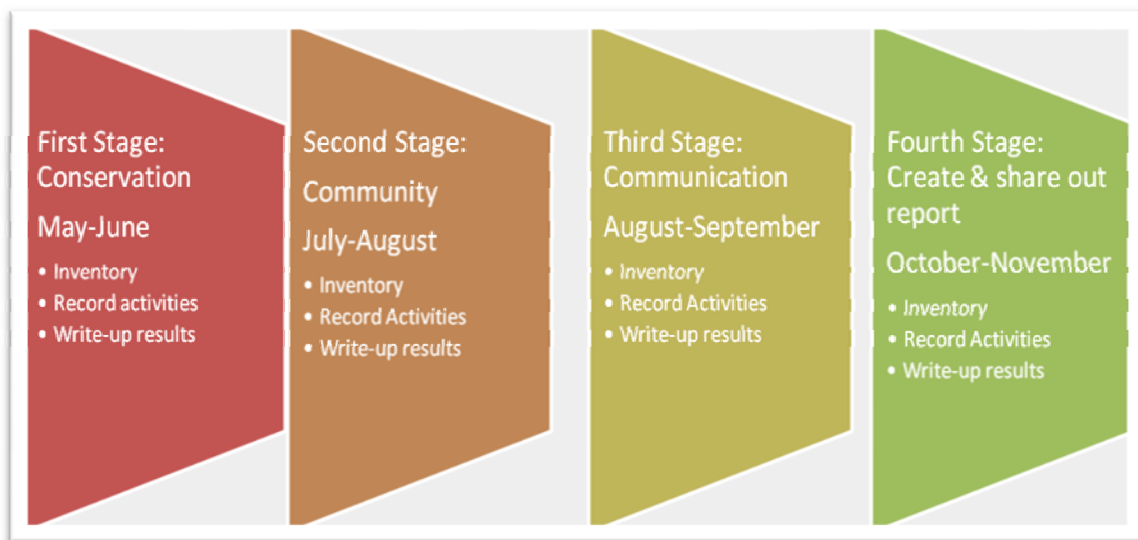
- Increased efficient use of energy through education and outreach, design, construction, and operations of new and existing buildings, and appliance efficiency standards.
- Increased efficiency of electricity generation through education and outreach, performance standards, and support of renewable energy use and development.
- Reduction in emissions through transit infrastructure, best workplaces practices, and distributed workplace modeling.
- Increased greenhouse mitigation through land management and farming practices, use of biomass feedstocks for electricity, heat, or steam production, waste management, and production of cellulosic biofuels.
- Increased collaboration in cross-cutting areas through community, state, national, and global networking and partnerships.

## Appendix C: Graphical maps outlining the LSTF action plan and areas of examination

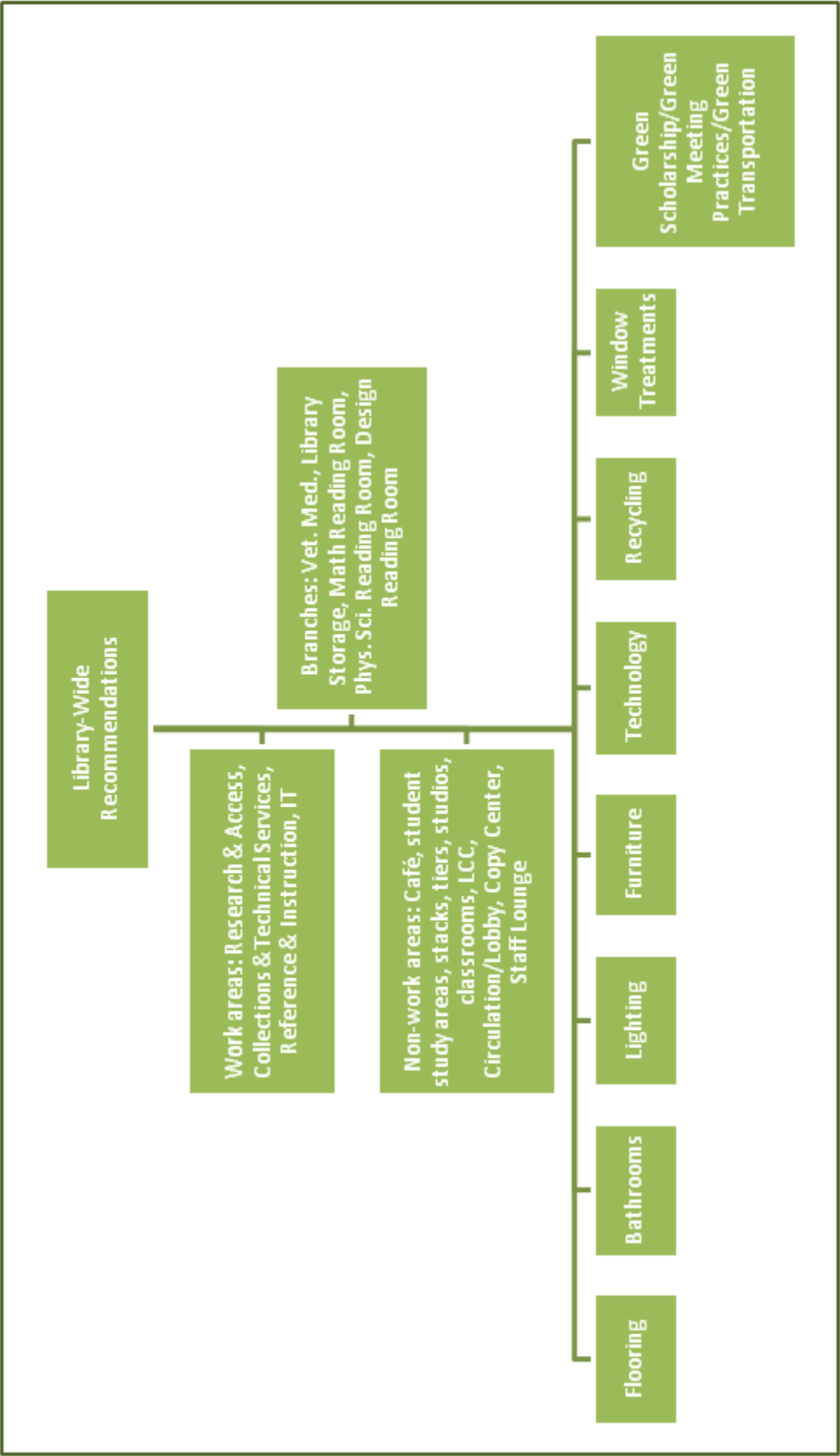
### Graphical Overview of Task force Action Plan

1. Timeline
2. Categories and the items or activities examined in each category
  - a. Conservation
  - b. Community
  - c. Communication/Collaboration

## Timeline

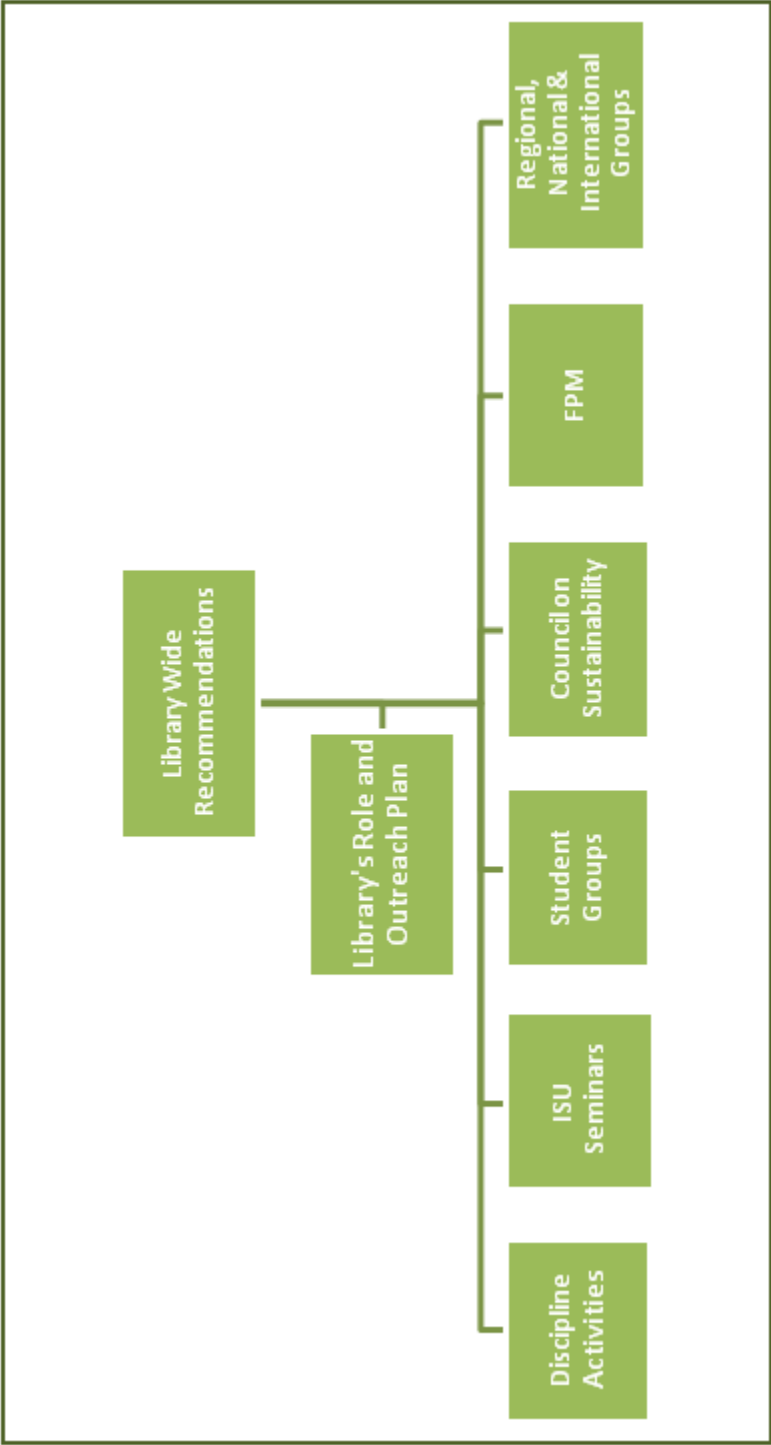


First Category: Conservation

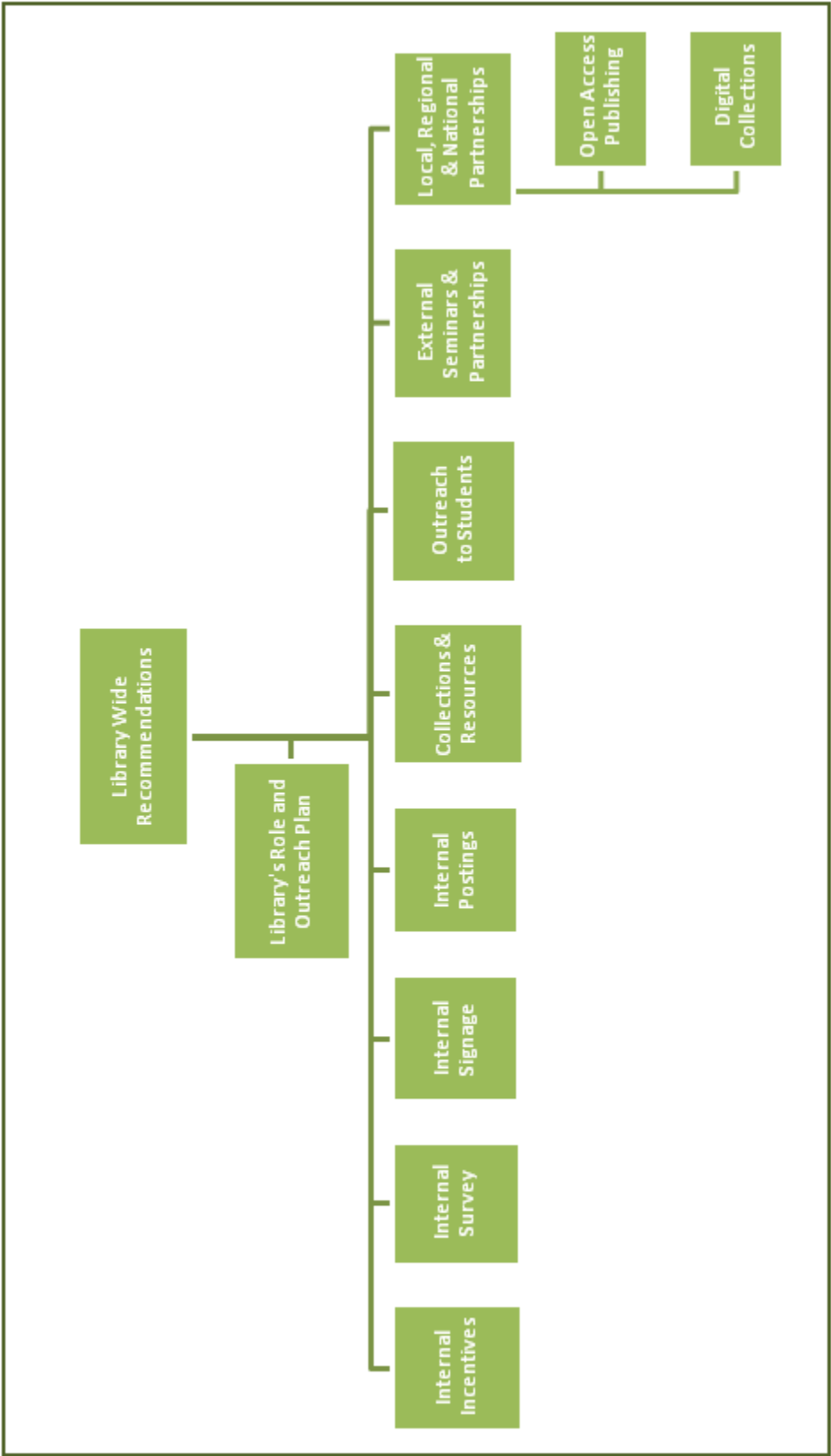




Second Category: Community



Third Category: Collaboration/Communication



**Appendix D**

## Lighting Inventory for the library

Note that more than a third of the lights are T12s. There would be significant saving if these were changed to T8 or T5 lights. Circline lights are an older type of light.

Main Site Floors	Total T12	Total T8	Total Tube	Total Circline	Total Other	Floor Total
Basement	2368	74	2442		28	2470
First	2266	30	2296		81	2377
Second	2769		2769		75	2844
Third	1743	4	1747		746	2493
Fourth	1764	485	2249		69	2318
Totals	10910	593	11503		999	
Main Site total						12502
Reading Rooms	449	56	505			505
Veterinary Medicine		275	275	100		375
Storage		644	644		10	654
Off Site sub-Totals	449	975	1424	100	10	
Off Site Total						2958
Combined locations sub-Totals	11359	1568	12927	100	1009	
Grand Total	15460					

**Appendix E**

There are a broad spectrum of windows and window treatments in the building. This inventory includes film treatments and window types. It does not include an inventory of shades, or blinds.

## Window Inventory

---

Floor	Room / Area	Material
Basement		Windows in study room next to Media center
Floor One	198 & 199	11 floor to ceiling windows (7 large and 4 narrower ones) - with highly reflective film and RUV rated.
	Old East Entrance	Doors - the 2 doors are mostly glass - and there is one long glass window above doors - none have film on them.
	Lobby - 72	Windows covering southeast side of the lobby - all appear to have some sort of darkened glass
	Front Doors	Mostly glass with windows around the glass - NONE appear to have darker glass or film.
	Circulation Desk area	8 windows up near the ceiling - not possible to see out them without standing on a ladder - all have horizontal blinds that are always closed.
	Southern End	Southern windows from front door to west end of building - 25 windows (about half are smaller windows). The lowest windows (12 of them) have horizontal blinds, which staff open or close as they wish. (Shaded from direct sunlight by the building overhang.)
	West side of building	Business Services has 12 windows (about half are smaller windows) and again the lowest windows (6 of them) have horizontal blinds which staff open or close as they wish (shaded from direct sunlight by building overhang); LCC west windows - 5 floor to ceiling with no blinds on them (are shaded from the sun in the summer months by trees nearby); Room 152 - 6 floor to ceiling windows all with horizontal blinds (are shaded from the sun in summer months by trees nearby).
	North side of building	Room 153 has 1 large picture window but can't tell if darkened glass - probably not - horizontal blinds that are usually open; 4 huge floor to ceiling windows covering almost the entire north wall - appear to have slightly darkened glass - no blinds.
	North Stairwells	Windows running up all 5 floors - they do not appear to have either darkened glass or window film
Second Floor		
	New Addition	Tinted film on all windows
	Second Addition	Floor to ceiling windows on the west and north side. It is unclear if there is a protective coating.
Third Floor		
	New Additions	Windows treated with film protects carpet and provides some heat retention.
	Dean's Office and East end of new addition.	Windows in East area of the new addition, and Dean's office are untreated but there is reflective property on (in the glass?) of the windows

	Second Additions	Floor to ceiling windows on the west and north side. It is unclear if there is a protective coating.
Fourth Floor		Rolled vinyl
	East	79"x79"
	East & South	3-55"x115.5", 3-32.25"x115.5, 3-47"x28", 3-36.25"x32.25
	2-East, 4-North	2-79"x79", 4-82.5"x62.5"
	South & East	4-55"x114.5", 4-32.75"x114.5", 4-55"x29.75", 4-32.75"x29.75"

**Appendix F**

This flooring inventory includes the types of carpet, tile and other flooring treatments that can be found in the library.

## Flooring Inventory

---

Floor	Room / Area	Material
Basement		Rolled carpet
Floor One		Rolled carpet - newer blue - less than 5 years old - Room 140 (Instruction Dept), Room 150-153 (Subject Dept offices), Business Services office area, Room 198A (PZ room), Room 192, Lobby area outside Fireplace Room, and inside the Fireplace Room.
		Rolled carpet - 10-15 years old (similar to other blue carpet on floor 1 but older) - had in stock for years and then installed it in Human Resources Office area.
		1970's orange rolled carpet - Room 161 (Standards Center); Room 198B (old ILL area);
		Linoleum tile - behind Circulation Desk, staff offices behind Circ, stacks sorting area, hallway to Business Services, staff restrooms in Business Services hallway; North half of each Tier
		Ancient flooring squares (looks like concrete?) - from the old East Entrance to the Cafe and leading up the stairs to the Rotunda.
	Tier 1-3	1970's orange rolled carpet Tier 2 running UNDER a portion of 6 rows of shelving near the North door into the tier
		Marble floor - in big squares - South half of each Tier
Second Floor		
		Rolled Carpet throughout
	Tiers 4-5	1970's orange rolled carpet Tier 2 running UNDER a portion of 6 rows of shelving near the North door into the tier
		Marble floor - in big squares - South half of each Tier
Third Floor		
		Rolled Carpet in New Addition, 1st Addition, and Faculty Lounge
	Tiers 5-6	Same as above
Fourth Floor		
	Conservation Lab	Rolled vinyl
	Staff and Dept. Head offices	Rolled carpet
	Conservator Office	Tile carpet
	Special Collections	Tile carpet
	Reading Room	Marmoleum
	Staff	Rolled carpet
	Storage	Poured concrete
	Vault	Poured concrete
	Public space	Rolled carpet
	Old addition	Rolled carpet
	New Addition	Rolled carpet
	Tier 7	Linoleum Tile

## Bibliography

1. Environmental Protection Agency. (2009). *Reduce, Reuse, Recycle*. Resource Conservation. Accessed 02-08-2009 at <http://www.epa.gov/waste/conserve/rrr/index.htm>
2. U.S. Green Building Council. (2008). *LEED for Existing Buildings: Operations & Maintenance Registered Project Checklist*. LEED for Existing Buildings. Accessed 8-8-2009 at <https://www.usgbc.org/ShowFile.aspx?DocumentID=4093>
3. Schoof, Renee. (August 12, 2009) A bright idea: LED light bulbs yield big savings in energy. McClatchy Newspapers. <http://www.mcclatchydc.com/homepage/story/73603.html>  
This report relied on University of California, Santa Barbara research at its Institute for Energy Efficiency.
4. Facilities Planning and Management, Iowa State University. (2009). *Energy Heroes*. Energy Savings at Iowa State. Accessed 02-08-2009 at <http://www.FP&M.iastate.edu/utilities/energyefficiency/docs/hero.pdf>
5. Levinson, Ronnen & Akbari, Ronnen Levinson & Hashem Akbari (2009) *Potential benefits of cool roofs on commercial buildings: conserving energy, saving money, and reducing emission of greenhouse gases and air pollutants*. Energy Efficiency March, 2009 p. 1-57.
6. Clayong, Mark. (2008) *How white roofs shine bright green: Painting homes a lighter shade does more than save money on A.C.* The Christian Science Monitor/ October 3, 2008 edition.
7. Pierce, Mark. (revised 2000) Energy Saving Window Treatments. Cornell University Extension. <http://www.human.cornell.edu/che/DEA/outreach/upload/EnergySav-Wind-trts.pdf>
8. U. S. Department. of Energy. (2009) Weather-stripping. Accessed October 1, 2009 at [http://www.energysavers.gov/your\\_home/insulation\\_airsealing/index.cfm/mytopic=11280](http://www.energysavers.gov/your_home/insulation_airsealing/index.cfm/mytopic=11280)
9. Energy Star. (2009) General Technical Overview of Power Management. Environmental Protection Agency. Accessed October 1, 2009 at [http://www.energystar.gov/index.cfm?c=power\\_mgt.pr\\_power\\_management](http://www.energystar.gov/index.cfm?c=power_mgt.pr_power_management)
10. Sustainable Endowments Institute (2009). The College Sustainability Report Card for 2010. Accessed October 1, 2009 at <http://www.greenreportcard.org/report-card-2010/schools/iowa-state-university>